

Idaho Antidegradation Implementation
Discussion Paper
“New or increased” discharges
June 7, 2010

Implementation of Idaho’s Antidegradation Policy is intended to protect existing beneficial uses and water quality necessary to support those uses and maintain waters of high quality from degradation due to anthropogenic causes. This paper introduces ideas for discussion and outlines the recommendations DEQ developed regarding discharges to high quality receiving water and the initiation of Tier II review and analysis.

The national pollutant discharge elimination system (NPDES) regulates point source pollution by requiring those entities with a discrete source of pollution to acquire a permit defining the limits on the quality and quantity of effluent that can be discharged to receiving waters. These NPDES permits are required to address antidegradation. Idaho’s Antidegradation Policy does not currently direct NPDES permit writers on how to do this. There are two issues of concern regarding antidegradation and NPDES permits;

- 1) Antidegradation analysis for new permits, and
- 2) Antidegradation analysis for renewal of permits for an existing facility.

All permits will receive a review of their degradation potential, but some will not lead to degradation. There are two approaches to deal with this. One is to use a permit application for a new or increased discharge as a prompt to initiate a Tier II review. Neighboring states that use this approach include Washington, Wyoming, Utah and Montana. Renewal permits for existing facilities that are not applying for an increase in discharge or pollutant concentrations would then be excused from the Tier II analysis on the basis they will not cause further degradation of water quality and the Tier II review would be complete with the finding that no degradation is occurring. The second is to conduct some level of Tier II analysis for all permits. Oregon is an example of a neighboring state that uses this second approach. Thus the nature of permit (is it a new discharge or an increased discharge or a renewal with no increase) would determine the extent and intensity of analysis. All neighboring states limit the extent of analysis for permits of existing facilities that are not expanding or increasing their discharge.

Summary of neighboring states:

Washington, Wyoming, Utah and Montana specifically address “new or expanded” in code, rule or guidance. Washington defines “expanded” as one of three contingencies:

- 1) A physical expansion of the facility (production or wastewater system expansions with a potential to allow an increase in the volume of wastewater or the amount of pollution) or activity;
- 2) An increase (either monthly average or annual average) to an existing permitted concentration or permitted effluent mass limit (loading) to a water body greater than 10%; or
- 3) The act of re-rating the capacity of an existing plant greater than 10%.

For stormwater discharges Washington defines “new or expanded” as changes in the amount of polluted stormwater runoff that would reach waters beyond the stormwater treatment network. As a surrogate measure of increased polluted runoff they use the change in impervious surface

area, or alternatively, a change in the use of existing impervious surface to activities known to contribute greater levels of pollutants in runoff.

Wyoming uses a significance threshold (see Defining Significance Thresholds for Water Quality Degradation) in determining if the source is new or expanded and Montana defines new or increased as an activity resulting in a change of existing water quality occurring on or after April 29, 1993. Montana's definition excludes the following:

- (a) sources from which discharges to state waters have commenced or increased on or after April 29, 1993, provided the discharge is in compliance with the conditions of, and does not exceed the limits established under or determined from, a permit or approval issued by the department prior to April 29, 1993;
- (b) nonpoint sources discharging prior to April 29, 1993;
- (c) withdrawals of water pursuant to a valid water right existing prior to April 29, 1993; and
- (d) activities or categories of activities causing nonsignificant changes in existing water quality pursuant to ARM 17.30.670, 17.30.715, 17.30.716 or 75-5-301(5)(c), MCA.

Interpretation of Montana's rules in their guidance directs the owner of a new or increased source for which no water quality protection practices are approved by the department to design and submit a viable plan for implementation of the necessary water quality protection practices for department review, modification, and approval prior to implementation.

Utah uses two levels of antidegradation review to determine the reasonable potential for degradation. A Level I review ensures that existing uses are maintained and protected. In addition this review evaluates criteria to determine if a Level II review is required. A Level II review is more in depth and fulfills the requirements of Tier II antidegradation.

Oregon applies antidegradation review to all DEQ regulated activities but the degree of analysis is different depending upon various contingencies. Documenting that an in depth review is not necessary is typically done for those activities that are shown to be permit renewals with no increase in load, or a historic discharge that is not applying for an increase in load.

Nevada does not define what is meant by "new or expanded" in code, rule or guidance.

Updates to Colorado's 2001 *Antidegradation Significance Determination for New or Increased Water Quality Impacts: Procedural Guidance* clarify what constitutes a new discharge. "A new discharge would include existing effluent proposed for discharge to a location outside of the mixing zone of the existing discharge; effluent proposed for discharge from an additional outfall; existing effluent to which new pollutants are added; or effluent proposed for discharge from a new facility (except for replacement facilities with effluent proposed for discharge to the same location).

Discussion Results:

Discussion of new and increased discharges led to the recommendations described herein. It was recommended that defining new and increased discharges in rule should be concise with more detailed meaning included in the implementation guidance.

Discussion of the two approaches (new or increased discharge prompting Tier II analysis, or different levels of Tier II analysis) resulted in DEQ staff recommending the use of new or increased discharges as a prompt for initiating Tier II review and evaluating if a Tier II analysis is needed. Reissued permits that do not call for an increase in discharge would not be analyzed beyond the determination they were not increased. This recommendation was made after discussing the benefits and detractions of both methods. It was determined that a simpler and easier to understand rule could be drafted using new or increased discharge permit applications as a prompt to initiate a Tier II review. Using permit applications as a starting point allows the State to determine how and when to commit resources to antidegradation review. Therefore a prudent approach to the Tier II analysis process is to focus on those permit applications that are for new or increased discharges. This led to the structuring of the proposed rule so that the question of a change in water quality is addressed in advance of the Tier I and Tier II antidegradation requirements.

The alternative of applying a Tier II review and analysis to all discharges to high quality waters similar to Oregon's approach appeared burdensome and unnecessary in those cases where there was no change to the permitted discharge. This alternative would require different reviews and analyses depending upon the nature of the permit renewal and the discharge. Discussion of this alternative led to a general recommendation that the limited resources available to the State would be best used by focusing on new or increased discharges rather than conducting Tier II analysis; including alternatives analysis and socioeconomic justifications, on all permit applications.

Since the recommendation was to focus on permit applications for new or increased discharges, defining what is meant by new discharges and what is meant by increased discharges was the next step. Discussion of new and increased discharges led to the evaluation of multiple scenarios. For example, would a facility that is getting a permit limit for the first time for a pollutant that has been in the discharge all along be considered a new or increased discharge? Another example would be a facility (such as BSU) that has been discharging legally without a permit but due to changes in regulations are now required to get a discharge permit. These scenarios and others were discussed in depth and the results are outlined in the sections below.

Defining new discharges:

New discharges will be those dischargers seeking a permit for any discharge or effluent component that has not been permitted prior to the effective date of this rule. This definition was the starting point for the definition as it appears in the draft language currently being worked on. It would include those facilities that have been discharging under a general permit and are seeking an individual permit and also facilities that in the past may not have been required to have a discharge permit at all but due to the changing landscape of regulation are required to apply for a discharge permit. In some of these cases the antidegradation review may require a full Tier II review and analysis of alternatives and socioeconomic necessity. In other cases the department may make the determination that there is no lowering of baseline water quality and therefore a full Tier II analysis is not required.

Another question addressed was "How will the adoption of numeric nutrient criteria affect current and future NPDES permits and the antidegradation review?" If the discharge has not

changed from one permit cycle to the next and the only difference is that there is a new criterion or effluent limit (as a result of new effluent limitation guidelines, decreased mixing zone size, or decreased criterion) to be addressed, it was decided that if there is no evidence the discharge quality or quantity has changed thus there is no reason to expect any degradation of the baseline water quality. The antidegradation Tier II analysis would be complete with a statement that there is no lowering of baseline water quality associated with this new effluent limit.

Defining increased or expanded discharges:

There were three different options for defining increased or expanded discharges reviewed.

There were:

Option 1 – do not define increased or expanded and leave it up to the permit writer.

Option 2 – define increased or expanded similar in manner to Washington using operational capacity increases or loads. Include a method to allow for some operational variability before antidegradation review is prompted.

Option 3 – grandfather in existing facilities at current permit limits and any increase or expansion beyond current permit limits prompts Tier II analysis.

Table 1. Pros and cons of options for dealing with new or increased discharges.

	Pro	Con
Option 1	<ul style="list-style-type: none"> • No need to negotiate definitions for expanded or increased discharges • 	<ul style="list-style-type: none"> • Leaves implementation open to interpretation and possibly inconsistency • May not catch new pollutants at existing facilities.
Option 2	<ul style="list-style-type: none"> • Would reduce the number of permits that need in depth antidegradation review • Could include a provision that requires dischargers that are renewing a permit to go through antideg review if there has been a significant change to criteria for pollutants being discharged. (?) 	<ul style="list-style-type: none"> • Allowing a 10% expansion may allow cumulative effects to degrade system if there are several facilities discharging to the same water. • Existing facilities with permit limits for a particular pollutant may end up discharging above criteria for that pollutant if the expansion of the facility is less than 10% but assimilative capacity for the waterbody is used up.
Option 3	<ul style="list-style-type: none"> • Allows facilities with permits to continue operating with limited to no change in the NPDES permitting process (no additional data requirements from dischargers that don't expand or introduce new pollutants). 	<ul style="list-style-type: none"> • Requires Tier II analysis for any change in permits limits above current limit • Would require negotiation on date used for grandfathering

All options shown above were discussed with Option 3 being the one recommended.

Increased discharges will be those that increase the discharge of the pollutant above the previously permitted level using either a load based or concentration based permit limit depending on how the permit is written. Those dischargers that increase the volume of discharge but reduce the concentration of pollutant such that there is no change in load would show that the net effect of these two actions is no lowering of baseline water quality and the Tier II antidegradation analysis is completed for that case.

Another question discussed was “How would DEQ deal with a facility that currently operates below permit limits but during renewal of permit, gives notice that it intends to begin operating at the current permit limit?” The general consensus was that these facilities are not considered new or increased discharges and should be allowed to operate at their permitted levels and design capacity regardless of the levels they are currently discharging at. It is believed that the permit was designed using the best available knowledge at the time to make sure that the discharge would not cause the water body to exceed criteria when operating at the permitted level.

Recommendations:

“*New discharge*” means any discharge which has not occurred before. A new limit added to an existing permit for a pollutant already present in the discharge, or new regulation of an existing discharge, does not constitute a new discharge.

“*Increased discharge*” means any change that would cause the load of the pollutant to increase above the previously established permit limit discharged to waters of the state.

Tier II review and analysis:

All new or increased discharges to waters of the State receiving Tier II protection shall undergo a Tier II antidegradation review. If there is shown to be no lowering of water quality for new or increased discharges the analysis is completed with the determination no lowering of water quality. If a lowering of water quality is predicted to occur then the discharger(s) will be required to complete a Tier II antidegradation analysis which includes an alternatives analysis and socio-economic justification for discharge at proposed levels as outlined in the Antidegradation Implementation Procedures.

**Idaho Antidegradation Implementation
Discussion Paper
Antidegradation Reviews for General Permits
July 15, 2010**

In Idaho, both the Environmental Protection Agency (EPA) and the Corps of Engineers (Corps) can issue general permits for certain activities not requiring individual permits. A general permit (GP) can cover an indefinite number of activities or facilities across a wide geographical area, all of a similar nature.

Federal regulations (40 CFR 122.28) allow for general NPDES permits to be developed to cover multiple point sources that have common characteristics (e.g. similar operations, similar discharge constituents, etc.). Federal regulations (33 CFR 320.1) allow for the Corps to authorize a category or categories of activities having minimal impacts in a specific geographical region or nationwide. Historically, EPA has issued general permits with geographical service areas encompassing the entire state of Idaho (some of these general permits are also applicable in other geographical areas outside of Idaho). The Corps has issued Nationwide permits (which can cover qualifying activities across all of Idaho) as well as Regional permits (which cover smaller geographical areas within Idaho). Table 1 lists general permits that are, or will be applicable in Idaho.

Table 1. Final and Draft General Permits Applicable in Idaho

Agency	Permit
Corps	Nationwide Permits
	Regional General Permit 27 ¹
	Regional General Permit, Idaho ²
EPA	Aquaculture Facilities in Idaho Subject to Wasteload Allocations under Selected TMDLs
	Aquaculture Facilities in Idaho (Not Subject to Wasteload Allocations)
	Groundwater Remediation Facilities
	Concentrated Animal Feeding Operations (CAFO)
	Construction Stormwater (CGP)
	Industrial Stormwater (MSGP)
	Vessel General Permit (VGP)
	Small Suction Dredge Mining ³
	Pesticide General Permit (PGP) ³

1. This Regional Permit is only applicable to the Pend Orielle River and Pend Orielle Lake

2. This Regional Permit is only applicable to navigable waters of the United States as defined by Section 10 of the Rivers and Harbors Act 1899.

3. This permit has not been finalized as of the date of this discussion paper.

The number of facilities covered under a given general permit can range from a handful to thousands. For example, the Groundwater Remediation Facility General NPDES Permit applies to facilities located anywhere within Idaho. Since its issuance in July 2007, only four facilities have been authorized coverage under this permit, and these facilities are located in Boise, Idaho Falls, Atlanta, and Nampa. On the opposite end of the spectrum, approximately 900 active construction activities within Idaho have been authorized coverage under the Construction

General Permit (CGP), which was issued in July 2008. The CGP also is characterized by dealing with activities that are normally temporary, in contrast to intermittent but ongoing stormwater discharge.

General permits are typically issued prior to knowing who will seek coverage, when facilities will seek coverage, how many facilities will seek coverage, and what the receiving water bodies will be. This presents challenges to analyzing their effect on water quality including antidegradation review because there is no site-specific information on which to base the review. Because of this, some individuals hold the opinion that antidegradation review should or must be conducted at the time at which each facility or activity seeks coverage under the general permit. On the flipside, it can be argued that conducting an antidegradation review at the time of general permit issuance is possible with certain assumptions and conditions, and necessary if general permits are to serve their purpose of streamlining the permitting process. For example, if stringent enough permit controls are in place, DEQ may be able to conclude there would be no lowering of water quality as long as the permit conditions are complied with. As another example, it may be possible to conclude at the general permit level that activities authorized under the general permit are necessary and important for social or economic development in the area.

Coupled with the argument of when an antidegradation review should be conducted for general permits, Idaho presents a unique situation because the state lacks permitting authority. Applicants seeking coverage under a general permit typically work directly with EPA or the Corps unless different requirements are specified in Idaho's Section 401 water quality certification. This makes coordination and timing of Idaho's antidegradation review more challenging.

The purpose of this paper is to explore ways in which the federal agencies have addressed antidegradation in past general permits, explore options for Idaho to consider, and discuss what other states have done.

Past Approaches to Antidegradation Implementation in General Permits

The Corps has not directly addressed antidegradation issues in their issuance of the NWP or regional permits and neither did DEQ in its certification of these permits. EPA has not applied antidegradation to general permits consistently over the past ten years, and their approach seems to be evolving. In their final reissuance of the MSGP in 2000, (Fed. Reg. 65, Oct. 30, 2000, page 64746), EPA stated that conducting a Tier II antidegradation review at the time of permit issuance would be difficult. As such, the only discharges allowed coverage under the 2000 MSGP were those that "do not degrade the use of a Tier II water below its existing levels." Similarly, in a permit for water treatment facility discharges in Massachusetts and New Hampshire (FR 65, Nov. 15, 2003, page 69000), EPA required new or expanded facilities seeking coverage to first undergo an individual antidegradation review.

EPA took a different approach than described above in its approval of the antidegradation implementation procedures for West Virginia and Washington as well as in its issuance of recent general permits. In its approval of West Virginia's antidegradation implementation procedures (November 2001), EPA stated that it was possible for the Tier II antidegradation review to occur

at either the general permit issuance stage or the individual notice of intent stage. However, in *Ohio Valley Environmental Coalition v. Horinko*, 279 F. Supp.2d 732 (S.D.W.Va.2003), the court ruled that EPA's approval was not appropriate because EPA did not provide justification for "how the type of review called for in §131.12(a)(2), which is location-specific and requires public participation, can be done on a statewide or nationwide basis." The Court found it important to its determination that EPA had concluded, with respect to the 2000 MSGP, that antidegradation reviews could not be done at the time the general permit was issued.

Groundwater Remediation General Permit (2007)

This general permit authorized discharges from facilities that are remediating contaminated groundwater. The general permit lists "prohibited areas of discharge"; however, EPA may provide waivers to this permit provision provided DEQ issues an individual certification for such discharges. Prohibited areas of discharge include impaired waterbodies (where the waterbody is impaired for the pollutant which is in the discharge), special resource waters, and outstanding resource waters.

Multi-sector General Permit (2008)

This general permit authorizes stormwater discharges associated with various industrial activities. EPA modified how operators can meet antidegradation requirements in the 2008 MSGP (FR 73, Sep. 28. 2008, page 56575). New facilities seeking coverage under the permit must indicate on the Notice of Intent for coverage (NOI) whether the receiving water body is Tier I, II, or III. Before a new discharge can discharge to a Tier I waterbody, they must meet specific criteria in the permit (e.g. prevent all exposure to stormwater of pollutants for which the waterbody is impaired, or comply with an applicable TMDL). If a water body is Tier III, then the operator can not receive coverage under the general permit. If a water body is Tier II, then EPA will evaluate whether additional conditions are necessary to meet the antidegradation requirements or if an individual permit is necessary. So, in this instance, EPA will essentially make antidegradation determinations at the time of the NOI submittal for high quality waters. In general, however, EPA expects that compliance with the permit limits and conditions of the MSGP will be sufficient to satisfy Tier II antidegradation requirements because the controls will not result in a lowering of water quality (Fact Sheet, page 59). Thus, individual antidegradation determinations will generally not be necessary.

Vessel General Permit 2008

The vessel general permit (VGP) authorizes specific discharges from commercial and large recreational vessels. EPA argued that the vessels receiving coverage under the permit should not be considered new or increased discharges that would "forseeably lower water quality." EPA further stated that generally, vessels covered under this permit and their discharges existed before EPA's issuance of the VGP and submission of those vessels' notices of intent to be covered under the VGP. Because these discharges are not new or increased, EPA concluded that they do not trigger antidegradation review. Furthermore, EPA argued that the issuance of the VGP will improve water quality as vessels carry out the permit's technology-based requirements.

Construction Stormwater General Permit (modified 2009)

This permit authorizes stormwater discharges from construction activities greater than 1 acre in size. The permit requirements are intended to ensure that permittees select, install, implement, and maintain control measures at their construction site that will be adequate and sufficient to meet water

quality standards for all pollutants of concern. These control measures will be considered as stringent as necessary to ensure that discharges do not cause or contribute to an excursion above any applicable state water quality standard, except in those instances where EPA requires additional controls. As such, EPA expects that compliance with the terms of the general permit will ensure compliance with water quality standards (CGP Fact Sheet). Furthermore, the permit requires compliance with applicable provisions in TMDLs. If a TMDL doesn't address individual construction sites, then EPA believes that compliance with the requirements of the CGP is sufficient for compliance with the TMDL. Neither the permit nor fact sheet specifically mentioned antidegradation (although certifications from New Mexico and the Puyallup Tribe of Indians did address antidegradation to some degree).

Draft General Permit for Residually Designated Discharges in Milford, Bellingham, and Franklin, Massachusetts (2010).

This permit authorizes stormwater discharges from designated discharges. A designated discharge is two or more acres of impervious surfaces located: 1) in the Charles River watershed; 2) in part or in whole in the municipalities of Milford, Bellingham, or Franklin, Massachusetts; and 3) on a single lot or two or more contiguous lots.

The draft permit contains water quality based effluent limits, some of which are based upon antidegradation provisions of Massachusetts water quality standards. For example, the permit requires new or increased discharges to high quality waters to notify EPA and DEQ a minimum of 60 days prior to discharging. This notification should include documentation demonstrating how the discharge will comply with the antidegradation requirements. The permit further specifies ways in which a discharge can be deemed to not cause significant lowering of water quality. In addition, the permit stipulates that all existing uses be protected and that new or increased discharges to outstanding resources and special resource waters are not authorized under the general permit. The permit, fact sheet, and other documents can be found at:

<http://www.epa.gov/region1/npdes/charlesriver/>

Approaches Idaho Considered

Idaho needs to determine a policy for addressing antidegradation in our certifications of general permits. DEQ has not provided any specific conditions addressing antidegradation for a general permit to date. There are a variety of ways in which DEQ can address antidegradation for general permits. Each one is described in more detail below. DEQ may decide to implement one or a combination of these approaches, acknowledging that the selected approach will be permit-specific.

Approach 1

DEQ could exempt all general permits from Tier II antidegradation review. Kentucky tried this approach when it exempted CAFOs, stormwater discharges, and other categories of discharges from Tier II antidegradation reviews. In *Kentucky Waterways Alliance v. EPA*, 540 F.3d 466 (6th Circuit, 2008) the Court overturned EPA's approval of Kentucky's exemptions from Tier II review. EPA's approval of the exemptions was based upon EPA's conclusion that the discharges were all de minimus. The Court stated that while agencies can create exemptions to mandatory requirements for de minimus activities they must explain the basis for determining insignificance. With reservations, the Court held that a de minimus categorical exemption from Tier II review is allowable, holding that 10 % of the assimilative capacity of the water body is

the outer limit for a de minimus individual discharge. Since EPA did not even consider whether the Kentucky exemptions would allow individual dischargers to consume 10% of the assimilative capacity, the Court held that EPA acted contrary to law in approving the exemptions.

It appears as though exempting general permits from Tier II antidegradation review is not a viable option unless DEQ rules allowed for some de minimis discharge and there was adequate justification that such exemptions would result in de minimis lowering of water quality. Developing such a justification for general permits would be difficult.

Approach 2

Conduct an antidegradation review with the issuance of the general permit. It may be possible to demonstrate that some activities, when conducted in a manner that complies with the terms and conditions of a general permit would not result in a lowering of water quality. If DEQ determines that the permit complies with narrative and numeric WQS, applicable TMDLs, section 054 of our standards, and the activity would not lower water quality, then DEQ can conclude the permit will protect existing and designated beneficial uses in the receiving water body as well as maintain high water quality.

While this approach may work for some general permits (e.g. construction general permit, or small placer mining general permit), it might not be appropriate for other general permits (such as the groundwater remediation general permit). This approach would likely require a lot of work by DEQ initially to build a rationale that would withstand legal challenge.

Approach 3

Similar to Approach 2, conduct an antidegradation review with the issuance of the general permit but rather than concluding there would be no lowering of water quality, presume that activities covered under the general permit may result in a lowering of water quality but conclude they are necessary for important social or economic development in the area. It may be possible to justify the necessity and importance of a group of activities covered under a general permit at the general permit stage.

While this approach may work for some general permits (e.g. pesticide general permit), it might not be appropriate for other general permits (such as the groundwater remediation general permit). This approach would likely require a lot of work by DEQ initially to build a rationale that would withstand legal challenge.

Approach 4

Rather than providing an antidegradation review and §401 certification for a general permit, DEQ could require that each individual activity seeking coverage under a general permit obtain an individual review and certification. While this approach might be workable for general permits which don't cover a large number of facilities (e.g. the groundwater remediation general permit), it would not be workable for general permits such as the construction stormwater general permit which covers hundreds of activities.

Given the sheer number of activities/facilities obtaining coverage under the various general permits in Idaho, this approach would require a substantial amount of agency resources to implement.

Approach 5

DEQ could require each discharge to a high quality water seeking coverage under a general permit to demonstrate compliance with the high quality water provisions in Idaho WQS. The discharger would need to demonstrate either 1) there will be no lowering of water quality; or 2) if there would be a lowering of water quality, that the activity is necessary for important social and economic development in the area and all other point and nonpoint source activities will achieve their highest levels of controls. Such a demonstration would need to undergo public and agency review.

In order to implement this approach, we may have to require that activities discharging to high quality waters obtain an individual water quality certification or meet certain conditions before being granted authorization by EPA. This is similar to EPA's approach to antidegradation under the 2008 MSGP. Similar to Approach 4, this approach might be workable for some general permits and not workable for others. The resulting DEQ workload could be great.

Other States

Washington

Washington rules indicate that new or reissued GPs will undergo an analysis under Tier II at the time the Department of Ecology develops and approves the GP. They specifically state in their rules that individual activities covered under these general permits will not require a Tier II analysis. However, in their *Implementing the Tier II Antidegradation Rules* guidance, Washington acknowledges that “it is important that the public be able to weigh in on whether individual actions are in the overriding public interest.” The antidegradation rule establishes a refutable presumption that they do, but only through a public notice of intent to provide coverage and expected compliance with antidegradation does the general public have an opportunity to question individual actions. Thus, requests for coverage should be public noticed in a local paper and on Ecology’s webpage.”

In its approval of WA WQS revisions, EPA found that it is possible to conduct a Tier II antidegradation review at the time of the permit issuance, stating:

“As far as satisfying the requirements of 40 CFR § 131.12(a)(2), the permit authority could first identify and subject to public comment its determination of the high quality waters (if any) in the area to be covered by the general permit. Next, the permit authority could determine and subject to public comment its determination of whether the discharge limits it intends to propose would lower the quality of water in any high quality waters. This analysis would be subject to public comment in the permit process. Third, the permit authority, obtaining information as necessary from the permitted industry or industries, would conduct the Tier II antidegradation analysis – an analysis of reasonable alternatives to the discharge and a determination of whether any lowering of water quality in high

quality waters would be “necessary to accommodate important economic or social development in the area in which the waters are located.”

Washington recently received an administrative appeal of their Industrial Stormwater General Permit for not meeting the Antidegradation Tier II requirements.

Oregon

It is unclear whether and how Oregon implements antidegradation reviews for general permits. In their *Antidegradation Policy Implementation Internal Management Direction for NPDES Permits and Section 401 Water Quality Certifications* (IMD), Oregon states,

“Therefore, unless there are data to indicate that activities under a general permit are likely to cause a significant lowering of water quality, such activities should be considered as not likely to cause a lowering of water quality for the purposes of the antidegradation review. If DEQ staff believe that an activity proposed under a general permit will result in a lowering of water quality, then DEQ should require the source/discharger to apply for an individual NPDES permit.”

Furthermore, DEQ presumes that renewal of general permits with the same or more stringent effluent limits does not cause a lowering of water quality.

Later in the IMD, DEQ states:

“ New general permits should undergo an analysis of potential impact on water quality before they are issued. Modeling can be used, where appropriate, to determine the likelihood that water quality will be lowered as a result of activities under a general permit. Effluent limitations and operating conditions of the general permit should be designed to cause no lowering of water quality. This may require adherence to Best Management Practices or to progressively restrictive effluent limitations. If a lowering of water quality is likely to take place, then an analysis must be conducted to determine if the socioeconomic benefits of allowing the lowering of water quality outweigh the environmental costs.”

Oregon appeared to do a Tier 1 antidegradation review for their small suction dredge permit; however, it did not appear that they addressed Tier 2 waters. Rather, Oregon focused on how the permit was protective of impaired water bodies.

Utah

Utah’s rules (although not yet approved by EPA) state that as general guidance, general permits (CWA Section 402 general permits and CWA Section 404 Nationwide and general permits) will be deemed to have a temporary and limited effect on water quality where there is a reasonable factual basis to support such a conclusion. In these instances, subsequent activities authorized under the general permits will not be subject to additional antidegradation reviews. Utah’s rules provide details about special procedures for Section 404 permits. Essentially their rules state, “Because the 404(b)(1) guidelines contains an alternatives analysis, the executive secretary will not require development of a separate alternatives analysis for the anti-degradation review. The division will use the analysis in the 404(b)(1) finding document in completing its anti-degradation review and 401 certification.”

Kentucky

Kentucky's original rules essentially exempted some general permits (e.g. stormwater, CAFO, coal mines) from the Tier II review process. This rule was challenged and the 6th Circuit Court held that EPA's approval of these exemptions was arbitrary and capricious. Kentucky's revised rules indicate that general permits are deemed to comply with the alternatives and socioeconomic analysis requirements as long as specific criteria are met. Such criteria include: the Fact Sheet issued with each permit will describe how the permitted activities will comply with antidegradation requirements (socioeconomic demonstration and alternatives analysis); the public will be notified of any activity granted coverage under the permit; and if the Cabinet determines that additional controls and requirements beyond those in the general permit are needed to meet antidegradation requirements, the applicant shall be required to obtain an individual permit. These rules were submitted to EPA in late 2009, and to date EPA has not approved or disapproved of the rules.

Others

Specific information in guidance or rule about how **Wyoming, Montana, and Nevada** implemented antidegradation in general permits was not readily available.

Applicability of Antidegradation Regulations

Excerpts from Tetra Tech's June 22, 2007 *Technical Memorandum #2—Stormwater Nondegradation Analysis Project* prepared for the Minnesota Pollution Control Agency

APPLICABILITY OF ANTIDEGRADATION REGULATIONS

EPA has determined and courts have held that, at a minimum, any one or a combination of several activities can trigger an antidegradation review. Typically, antidegradation implementation methods adopted by states or supported by EPA require such reviews for “new or expanded” *regulated* discharges, e.g., those authorized by an NPDES permit under section 402 of the CWA, those related to the placement of dredged or fill materials into regulated waters under section 404 of the CWA, and those subject to other regulatory approvals—especially from state water resource agencies.

A confusing aspect of antidegradation is the applicability of antidegradation to nonpoint sources and other *unregulated* activities that have the potential to degrade water quality. EPA policy notes that water quality standards, including antidegradation, can be applied to *any* activity that might affect water quality (*Water Quality Standards Handbook* 1994; *Interpretation of Federal Antidegradation Regulatory Requirement*, memorandum from Tudor Davies, Director, Office of Science and Technology (OST), to Water Management Division Directors, dated February 22, 1994; *EPA Region 5 Guidance for Antidegradation Policy Implementation for High Quality Waters*, 1986; *EPA Region 4 Antidegradation Guidance Tier II Procedures*, undated). However, the Agency has clearly indicated that despite the broad applicability of water quality standards, mechanisms to implement water quality standards through various regulatory schemes might not exist in all circumstances. None of the antidegradation memoranda or guidance documents produced by EPA, nor existing regulations, require states to regulate nonpoint sources that are currently unregulated. However, where independent regulatory authority over nonpoint sources exists that requires compliance with water quality standards, compliance with the antidegradation provisions is expected.

Federal Actions are Subject to State Antidegradation Rules

In *Addressing Water Pollution from Livestock Grazing after ONDA v. Dombeck: Legal Strategies Under the Clean Water Act* (2000), Peter M. Lacy notes that the courts have consistently ruled that federal activities are also subject to state antidegradation rules. For example, in 1987 the 9th Circuit affirmed federal responsibilities under the CWA in a timber harvest and road construction case. In *Oregon Natural Resources Council v. U.S. Forest Service (ONRC v. USFS)*, the plaintiffs alleged that the USFS's activities associated with a timber sale on the Willamette National Forest in Oregon violated state water quality standards and, therefore, were in violation of section 313. Specifically, ONRC claimed that the defendants violated and planned to violate both Oregon's nondegradation standard that “existing high quality waters...shall be maintained and protected” and a rule that activities in the Willamette Basin must not cause a 10 percent or greater cumulative increase in natural stream turbidities. Citing *Northwest Indian Cemetery Protective Association*, the plaintiffs argued that the 9th Circuit had already “recognized the rights of citizens to enforce state water quality standards against the [USFS].” The court accepted this duty under section 313 without further discussion.

In another case arising out of a fire-recovery timber sale on the Klamath National Forest in California, an environmental organization alleged that the proposed agency action would violate a state water quality control plan adopted by California's Water Quality Control Board. While the state plan required that turbidity must not increase by more than 20 percent, the turbidity levels from the combined effects of the fire and the project would exceed that level. Citing *ONRC v. USFS*, the 9th Circuit reaffirmed in 1990 that the USFS must comply with all state water quality standards, a duty that included violations from nonpoint sources. Finally, in 1998 the 9th Circuit stated that the requirement that all federal agencies comply with state water quality standards includes a state's antidegradation policy.

Broadly speaking, antidegradation protection applies to all surface waters. The antidegradation review procedure is designed to ensure that planned, regulated activities that have the potential to impact water quality are assessed before approval to ensure that existing uses of the waterbody—and the quality of water necessary to protect existing uses—is maintained. Most states apply antidegradation provisions to surface waters only. However, some states (e.g., Missouri and West Virginia) consider groundwater among the many *waters of the state*, and have retained the ability to apply antidegradation protection to groundwater. No states are known to have implemented a specific procedure for protecting groundwater under the antidegradation program, but the capacity to do so certainly exists. Other groundwater protection programs, such as the wellhead and source water protection programs, are more commonly used to ensure nondegradation of groundwater resources.

In Region 5 states, the definition of new or expanded discharge may vary depending on whether it is to be discharged into the Great Lakes System. For example, in Wisconsin, new and expanded discharges are defined as follows:

New discharge: Any point source which has not received a WPDES permit from the department prior to March 1, 1989.

Increased discharge:

(a) *Increased discharge* means any change in concentration, level or loading of a substance which would exceed an effluent limitation specified in a current WPDES permit.

(b) Except as provided in par. (c), increased discharge does not include the initial imposition of effluent limitations for substances which were in a previous discharge but which had not been limited in a prior or the current permit unless the initial imposition of effluent limitations occurs due to a changed discharge location, other than a change in location necessary to accommodate a mixing zone as provided for in ch. NR 106.

(c) For discharges of bioaccumulative chemicals of concern (BCCs), defined in s. NR 105.03 (9), to the Great Lakes system, increased discharge means:

1. An increased discharge as defined in par. (a);

2. The initial imposition of an effluent limitation for a BCC that occurs due to an actual or expected increase in loading of the BCC; and

3. Any actual or expected increase in loading of a BCC which is caused by or will be caused by a facility expansion, a process modification, or the connection to an existing public or private wastewater treatment system of a substantial source of untreated or pretreated effluent containing BCCs, and which requires notification to the department pursuant to s. NR 205.07 (2) (a) or (3) (c) or (d). Under this subdivision, increased discharge does not include any increase in the loading of BCCs that is caused by normal operational variability, changes in intake pollutants or increasing the rate or hours of production within the existing production capacity. Normal operational variability includes, for POTWs, any additional wastewater volume within the existing capacity of the POTW from commercial, industrial or residential growth which do not normally contribute substantial quantities of BCCs to the POTW's wastewater flow.

Ohio goes further in defining a *net increase* for an existing source as:

(i) The amount by which the sum of the following exceeds zero:

(a) The increase in the mass discharge limit attributable to the activity subject to this rule; and

(b) All other contemporaneous increases or decreases attributable to other pollutant source(s) affecting the surface water segment(s) under consideration and which are stipulated as a condition of the applicant's permit and which shall occur during the term of the applicant's permit;

or

(ii) For heat, bacteria and any other regulated pollutant which, though not measurable as a mass level is nonetheless susceptible to determinations of net increase, the amount by which the sum of the following exceeds zero:

- (a) The increase in an authorized discharge level attributable to the activity subject to this rule; and
- (b) All other contemporaneous increases or decreases attributable to other pollutant source(s) affecting the surface water segment(s) under consideration and which are stipulated as a condition of the applicant's permit and which shall occur during the term of the applicant's permit.

Stormwater Focus: New and Expanded Discharges

The majority of the Region 5 states surveyed, Illinois, Ohio, Wisconsin, and Indiana, expressly exempt current MS4 permit from antidegradation review because they do not consider them to be a new or expanded discharge. Michigan also in effect exempts existing stormwater discharges in that its rules contain several exemptions that permit stormwater dischargers to demonstrate that antidegradation review is not required. Other state programs surveyed do not have this interpretation of MS4 discharges. For most states, stormwater permits, including those for MS4s, construction activities, and industrial facilities, are considered to new or expanded permits for which antidegradation review is conducted during the general permit development process.

For stormwater regulated under *individual permits*, the State of Washington defines new or expanded discharge as changes in the amount of polluted stormwater runoff that would reach waters beyond the stormwater treatment network. A good surrogate measure of increased polluted runoff is the change in impervious surface area, or alternatively, a change in the use of existing impervious surface to activities known to contribute greater levels of pollutants in runoff. For industrial facilities applying for an individual stormwater permit, an expected increase in impervious surface (compared to the previous landscape) of more than 10% or a significant change in the use of existing impervious surfaces should generally be considered an indication that a new or expanded discharge will have or will occur. For municipal stormwater permits, it should be assumed, absent defensible information to the contrary, that there will be new or expanded discharges of stormwater which would cause a measurable lowering of water quality.

In Oregon and most other states, a new discharge involves submission of any new NPDES permit application or 401 water quality certification (or other regulated discharges such as 404 permits) and an expanded discharge is one that goes beyond that presently allowed in an existing permit or that will lower water quality from existing water quality.

Pennsylvania directly addressed the issue of grandfathered discharges as follows:

Discharges in existence prior to the high quality (HQ) [Tier II] or exceptional value (EV) [Tier III] designation are "grandfathered" and considered to be part of the existing quality of the waterbody. "Grandfathered" flows are not subject to "the non-discharge alternatives/use of best technologies analysis" or [social or economic justification] SEJ (for HQ waters) in acknowledgment of the resources invested by municipal officials in planning for community sewage needs and corporate officials in equivalent planning to tailor treatment facilities to the wastewater volume and characteristics created by production/manufacturing processes.

Other states have various definitions of *new and expanded* discharges; however, none surveyed apply a discharge volume threshold, as does Minnesota, to indicate an expansion significant enough to *trigger* nondegradation review.

States may elect to extend their antidegradation policies to other areas and activities, including the following:

- Activities affecting groundwater
- Animal feeding operations
- Onsite wastewater treatment systems
- Other unregulated nonpoint sources of pollution
- Channel and flow alterations

For example, the California Colorado River Basin Regional Water Quality Control Board has expanded the scope of antidegradation review to sedimentation and siltation from all sources:

A prohibition of sediment/silt discharge is hereby established for the Imperial Valley, including the Alamo River, New River, all Imperial Valley Drains, and their tributaries. Specifically, beginning three months after EPA approval, the direct or indirect discharge of sediment into the Imperial Valley is prohibited, unless:

1. The Discharger is:

- a. In compliance with applicable Sedimentation/Siltation TMDL(s), including implementation provisions (e.g., Discharger is in good standing with the ICFB Watershed Program or has a Drain Water Quality Monitoring Plan (DWQMP) approved by the Executive Officer); or
- b. Has a monitoring and surveillance program approved by the Executive Officer that demonstrates that discharges of sediment/silt into the aforementioned waters do not violate or contribute to a violation of the TMDL(s), *the anti-degradation policy (State Board Resolution No. 68-16)*, or water quality objectives; or
- c. Is covered by Waste Discharge Requirements (WDRs) or a Waiver of WDRs that applies to the discharge.

The Oregon Department of Environmental Quality (Oregon DEQ) considers antidegradation to apply to nonpoint source pollution, and the state's antidegradation policy has expanded the review to cover several sources. The following policy is implemented through general project review:

The following activities will not be considered new or increasing discharges and will therefore not trigger an antidegradation review under this rule *so long as they do not increase in frequency, intensity, duration or geographical extent* (emphasis added):

- (a) Rotating grazing pastures,
- (b) Agricultural crop rotations, and
- (c) Maintenance dredging.

While Oregon DEQ does not have formal procedures at this time, it intends to develop procedures for applying antidegradation policy in a nonpoint source context for those discharges that do not meet the above waiver criteria.

The issues related to application of antidegradation requirements to channel and flow alterations are complex. Clearly, altering existing stream channels or altering existing flows can and often do impact water quality (i.e., result in degradation). A strong case can be made for including these activities among the regulated activities typically subject to antidegradation reviews. In the case of channel alterations, such a review is usually required if the activity is subject to a CWA section 404 permit or CWA section 401 water quality certification. Flow alterations subject to state permitting programs can also be

included among the activities requiring an antidegradation review. New Hampshire specifically includes flow alterations in its antidegradation regulation at Env-Ws 1708.02:

Antidegradation shall apply to... (an) increase in flow alteration over an existing alteration; and...all hydrologic modifications, such as dam construction and water withdrawals.

Pennsylvania also applies antidegradation requirements to activities that impact flow, such as those involving water withdrawal permits. In its 2003 *Water Quality Antidegradation Implementation Guidance*, the state's DEP notes:

For projects subject to a DEP permit or approval that may affect an (Exceptional Value) or (High Quality) surface water but do not involve a discharge, there is a somewhat different review process. This process evaluates the effect of the proposed activity on surface water and requires that the use of the surface water be maintained and protected. Addressing water quantity issues as part of DEP's permitting process is an evolving area. Activities involving surface and groundwater withdrawals which require a DEP permit under the Pennsylvania Safe Drinking Water Act (SDWA) are being addressed on a case-by-case basis and in accordance with DEP's guidance... The procedures were developed to identify those surface and groundwater withdrawals under the SDWA which may be considered to have significant impact on streams, springs, and wetlands and indicate when additional determinations relating to water quantity are important permit considerations. It provides a means for applicants and DEP to focus on situations where additional review or assessment is needed to evaluate the magnitude and likelihood of potential impacts of such water withdrawals on surface water uses. Another tool that is useful in assessing stream impacts from a proposed withdrawal on a stream which supports a cold water fishery is DEP's guidance on use of the Instream Flow Incremental Methodology (IFIM)... While these tools provide a framework for evaluation of water withdrawal projects, DEP and the applicant may also use other methods and resources to achieve the goal of protecting the uses of surface waters where projects impacting water quantity are proposed.

Some states use their definition of new or expanded discharges to expressly exempt MS4 stormwater discharges because of the fact that the municipality was in existence and discharging before their antidegradation policy effective date and before the date it was permitted as a *regulated* activity subject to antidegradation reviews. For other states, antidegradation review is applied to stormwater discharges either during general permit development or through the individual permit issuance process. For example, the State of Washington defines a new or expanded discharge as changes in the amount of polluted stormwater runoff that would reach waters beyond the stormwater treatment network.

The state inventory revealed few other states that are applying antidegradation policy to stormwater discharges, except to consider an array of BMPs believed to reduce impacts associated with expansions of the MS4 area. Some states exempt stormwater specifically or otherwise do not include them in the types of discharges subject to antidegradation reviews. A few states consider some types of stormwater discharges to be subject to antidegradation review (i.e., construction discharges); however, as noted, the review is conducted during general permit development and no quantitative analysis of site-specific discharges is conducted. Finally, several states (e.g., West Virginia) do cite specific circumstances under which an antidegradation review would be conducted on the proposed discharge from an individual construction project (i.e., size of the project).

